

INDEX OF SURGICAL PROGRESS.

HEAD AND NECK.

I. **Empyema of the Frontal Sinus.** By OSCAR BLOCH (Copenhagen.) The writer relates the case of a child, æt. 13 years, who suffered from empyema of the frontal sinus to such an extent that the globe of the eye deviated from the normal position and was hindered in its movements. The disease had made its appearance ten years ago, after an attack of morbilli. At the operation a cavity extending clear back to the bottom of the orbit was found; communicating with the frontal sinus, which was not much dilated. The contents were green, mucous, odorless, half dried pus, which was found to be free from microbes. The wound was dressed with iodoform gauze. Recovery took place uneventfully.—*Nordiskt. Medicinskt. Arkiv.*, bd. 21, hft. 2.

II. **A Case of Rhinolith.** By G. BADEN (Odeuse.) The writer communicates the case of a widow, æt. 45 years, who, for about four years, had suffered from a badly smelling discharge from the right nostril. There were no pains in the beginning, but during the last two and a half years there were pains which radiated up towards the right side of the head. Upon examination the right side of the nose was found filled up with fetid pus, and about three quarters of an inch back of the aperture of the nostril a hard stone with jagged corners was discovered, which was removed, after crushing, by the forceps. The rhinolith revealed itself to be of a stony consistence and deposited stratiformly around a cherry pit in its centre.—*Hospitals-Tidende*, R. 3, bd. 7, pp. 157, 227.

III. **Primary Carcinoma of the Right Tonsil; Sudden Death.** By M. SCHMIDT. A man, æt. 72 years, presented a tumor

of the tonsil of the size of a pigeon's egg. The tumor, which was of fungous consistency, was the source of persistent pains and the patient was emaciated and in a state of advanced cachexia. After some time there were symptoms of compression and especially of the cervical vasculo-nervous fascia. He also suffered from vertigo and a tendency to somnolence. One night the patient died suddenly. There was no blood in the pharynx, and death must be attributed to some bulbar accident — *Gazette des Hopitaux*, March 29, 1890.

F. H. PRITCHARD (Boston).

IV. Conjunctivoplastics in Chronic Trachoma. By DR KASIMIR NOISZEWSKI (Duenaburg, Russia). The author communicates eight cases of severe chronic trachoma, which he treated after a novel method, consisting in scraping out all degenerated tissue down to the inner surface of the palpebral cartilage and transplanting to the raw surface a corresponding piece of the patient's labial mucous membrane. Of the 8 cases, 7 were those of indurated trachoma complicated in 3 with pannus carnosus and in 2 with infiltration of the cornea; the 8th patient had soft trachoma with corneal opacity and pannus. The author deduces the following corollaries from his operations: 1. Conjunctivoplastics is indicated in cases of indurated trachoma complicated with pannus carnosus and accompanied by vision = $\frac{1}{100}$. In such cases the operation is rapidly followed by excellent results amounting to a radical cure. 2. The transplantation leads to the disappearance of trachoma in the conjunctiva adjacent to the graft, the process of clearing being accompanied by a viscid mucoid secretion which is sometimes fairly profuse. 3. The changes which are to be observed in the labial graft may be divided into three distinct periods: *a*, the stage of maceration, lasting from 5 to 7 days; *b*, that of vascularization which lasts for 3 or 4 months or even longer, the graft looking swollen or fleshy and easily bleeding on slightest traumatic provocation. In the presence of a very intense congestion of the transplanted tissue, occasional slight scarifications may prove useful during the period; *c*, the stage of partial obliteration of the blood-vessels. 4. The operation is contra-indicated, or, at least, not indicated in such

cases where the ordinary treatment may yet prove successful—especially where the cornea remained sound, transparent and normally sensitive. In such patients, the transplantation gives rise to a permanent uncomfortable sensation of a foreign body ("cotton-wool") in the eye operated upon. [A detailed account of the author's first case may be found in the *Gazeta Lekarska*, No. 50, 1889; a paper on the first four cases in the *Centblt. f. Praktische Augenheilkunde*, February, 1890.]—*Vratch*, No. 29, 1890, p. 643.

VALERIUS IDELSON (Berne.)

IV. Two Cases of Laryngectomy. By MR D. WALLACE (Edinburgh.) The author reports two recent cases of laryngectomy done by Prof. J. Chiene, of Edinburgh, both for the removal of epithelioma. In the first case, a female, æt. 32 years, the disease began in the œsophagus, necessitating an œsophagostomy two months before the final operation. The progressive involvement of the larynx in the disease finally made tracheotomy necessary, but patient refused to have anything done unless the whole disease was removed. This was accordingly done. The whole larynx and the upper part of the œsophagus were removed. Death by septic pneumonia on the twelfth day.

The second case was in a man, æt. 44 years. Preliminary tracheotomy had been done two weeks before the final operation. The patient was anæsthetized by chloroform through the tracheotomy tube. The patient was placed with his shoulders raised and head hanging over the end of the table. An incision was made in the middle line of the neck from the hyoid bone to the level of the cricoid cartilage. The sterno thyroid and thyro-hyoid muscles were separated from the right ala of the thyroid cartilage, and turned back along with the skin and fascia covering them. The edges of the wound were held apart by two retractors, kept in position by an elastic bandage passed round the neck posteriorly. All bleeding having been arrested, the thyroid cartilage was divided up the middle line with a knife. The two alæ were held apart, the interior of the larynx being thus thoroughly exposed to view. It was now seen that the tumor was growing chiefly

from the inner aspect of the right ala of thyroid, from which it projected across the box of the larynx for nearly three-quarters of an inch. The tumor was also attached to the true vocal cords, the right being replaced by it. A small sponge was introduced into the lower part of the wound, so as completely to plug the trachea above the tracheotomy tube; and the right ala of thyroid with the attached tumor was removed by strong scissors. The other portions of the tumor were removed piece by piece, until a thorough removal of all the affected tissue had been effected. This necessitated the removal of nearly the whole of the left ala of the thyroid. Some œdematous mucous membrane at the upper part of the larynx simulated in appearance rather closely the new growth, and this in great part was removed. After careful examination this was believed to be merely œdematous mucous membrane, and the other portions of it were therefore not removed. There was very little bleeding during the operation, and any that occurred was readily arrested by forcipressure and torsion. Some iodoform powder was dusted over the wound. A plug of aseptic gauze was inserted so as to close especially the upper tracheal opening, but otherwise the wound was left quite freely open. The operation from beginning to end lasted rather more than one hour.

The after progress of the case was favorable and simple. The feeding through the œsophagus tube was well borne. As the wound contracted, he was not able to tolerate any tube passing upward into the mouth. But, though this portion of the wound became greatly contracted, he still can speak in a hoarse whisper.—*Edinburg Med. Jour.*, October, 1890.

GENITO-URINARY ORGANS.*

I. Extirpation of a Calculus From the Ureter by the Combined Abdominal Lumbar Section. By R. B. HALL, M. D., Cincinnati. Female, æt. 36 years. Subject to sudden and severe paroxysms of pain, beginning in region of left kidney and later in each attack becoming diffused over whole abdomen, every three to six weeks during a period of three years. Paroxysm lasted from 3 to 6 hours; each paroxysm preceded by uneasy sensations for some hours. In

each paroxysm the pain would suddenly disappear. No hæmaturia or other sign of kidney disease. Palpation of abdomen negative. Patient anæsthetized for explorative laparotomy as an attack was coming on. Palpation then revealed presence of a small tumor in region of left kidney. On introducing hand into abdominal cavity an elongated thin walled cyst, just below the kidney, was felt, and at the lowest point of this a calculus could be felt. Diagnosis of a stone impacted in the ureter was made, and a lumbar incision was at once made for its removal. After cutting down to the kidney it was fixed with the left hand and incised, making an incision large enough to admit the finger. At once there was a gush of about one pint of urine. The cyst in the abdomen had now disappeared, leaving the kidney in its normal position. The stone could be felt about $2\frac{1}{2}$ inches below the pelvis of the kidney, in place of $3\frac{1}{2}$, as it appeared before the kidney was incised. The removal of the stone proved to be an exceedingly difficult task. With a pair of forceps introduced through the lumbar incision, guided and aided by the hand inside of the abdominal cavity, several attempts were made to dislodge and remove the stone. It could not be grasped in the bite of the forceps without at the same time including the surrounding tissues, as could be very easily determined by the hand inside of the abdomen. Finding that it was impossible to remove the stone through the lumbar incision without more room, the kidney was laid freely open along the convex border, leaving about half an inch of kidney tissue at either end of the organ unincised, with the intention of first removing the stone, and later the kidney if the hæmorrhage could not be controlled. The kidney wound was held aside by retractors in the hands of the assistants, and after a tedious effort by invaginating the sac with the hand inside the abdomen, the stone was reached with the handle of the scalpel and peeled from the tissues about it. The hæmorrhage from the kidney was controlled by sponges from hot water. The wound in the loin was dressed by placing a rubber drainage-tube in the kidney. This tube was long enough to reach over the side of the bed to a bottle upon the floor, where the urine was collected from the kidney. The wound was sutured carefully around the drainage-tube. A glass drainage-tube was placed in the abdominal cavity,

which was removed in eighteen hours, as it was not required. Patient suffered very greatly from shock, attributable, partly, to the loss of blood. Highest pulse after she rallied was 126, and highest temperature 100.8° F., for one registration only, which was on the following day at 3 P.M. After that time the temperature varied from 98.5° F., to 99.5° F. After an examination of the stone, which weighed only $3\frac{7}{20}$ grains and measured $\frac{5}{16}$ inch long, $\frac{5}{16}$ inch wide, and $\frac{4}{16}$ inch thick, it was found to have a most peculiar shape. One end was presenting toward the dilated portion of the ureter and kidney where it was impacted with the narrow slot spoken of extending parallel with the ureter, making an opening about the size of the thickness of an ordinary pin, which was quite sufficient to carry off all of the urine from the kidney so long as no mucus or other solid material interfered with this small opening.

The stitches were removed from the abdominal wound on the seventh day. The wound was healed perfectly. On the following day the stitches were removed from the lumbar wound. For eight days the urine passed from the bladder contained small blood-clots, while that from the incised kidney remained clear.

On the eighth day the drainage-tube was removed from the kidney wound. For four days after that it appeared as though all of the urine from the left kidney passed through the sinus. After the twelfth day only a small quantity escaped occasionally. This gradually diminished until the sixteenth day, and on the twenty-first day the wound was perfectly healed. On the thirty-sixth day she went home in perfect health.

The author cannot find any previous case of removal of a calculus from the ureter by the combined abdominal-lumbar operation, and but four cases of removal of a stone from the ureter by any other procedure. He refers to the report of a case by Dr. Cullingworth in the "Transactions" of the Pathological Society of London, 1884 and 1885, vol. xxxvi, p. 278, of abdominal section and removal of stone from the ureter near the bladder; patient died fourth day. Dr. Terrey's case in which he was able to remove a stone from the ureter near the kidney by the lumbar incision only; patient recovered. The case is recorded

in the *American Journal of the Medical Sciences*, vol. 97, page 579. A case by Dr. Berg, in *Centrbl. f. Gyn.*, January 28, 1890. A female, sick fifteen years, who had passed about twenty small calculi. Temporary relief followed, and then very severe dysuria set in. By aid of the sound, stone in the bladder was detected. The urethra was dilated, the finger introduced, and it was found that a calculus was impacted in the right ureter, the point projecting into the bladder; the bladder was opened from the vagina and the stone extracted without difficulty. And a case by Dr. A. T. Cabot, reported in the *Boston Med. and Surg. Jour.*, September 11, 1890, in which he removed a stone from the ureter, two inches below the kidney, by the lumbar section only.

(The author has overlooked the case reported by Mr. Twynam, of Sydney, in the *Lancet* of February 1, 1890, in which an explorative laparotomy revealed a calculus in the ureter, which was removed three weeks later through an incision in the groin, as if for the ligation of the common iliac artery. See ANNALS, July, 1890, p. 74. ED.)

—*Medical Record*, October 18, 1890.

II. Report of 18 Cases of Suprapubic Lithotomy, With Immediate Suture of the Bladder in 10; Drainage in 8, and with Prostatectomy in 4. By A. W. MAYO ROBSON, F.R.C.S. (Leeds.) The author advocates suprapubic cystotomy for the removal of all vesical calculi that are judged to be unsuitable for lithotritry, for these reasons:

a. The operation can be carried out with scientific accuracy and certainty; the anatomical relations of the parts varying so little that with ordinary care there is no danger of making a mistake.

b. It can be performed with safety by surgeons who have only occasionally to perform lithotomy.

c. It is the only operation universally applicable to every size of stone.

d. It can be performed antiseptically, and the parts can be kept aseptic.

e. In old subjects, the interior of the bladder can be thoroughly explored, and if necessary an enlarged middle lobe of the prostate can be removed at the same time.

f. In a sacculated bladder, it is the only method by which the bladder can with certainty be cleared.

g. In a healthy bladder, the vesical wound can be closed with certainty and safety, and where the bladder is not healthy, or where for some reason or other it is not thought desirable to close it at once, drainage can be employed.

The only disadvantages—its taking rather longer and giving a little more trouble—are not of much moment in these days, when anæsthetics and detail in surgery are the rule.

As to the details of the operation, Robson, if there be cystitis, washes out the bladder with a warm solution of boracic acid ($\frac{1}{2}$ ounce to a pint) before beginning the operation. After drawing off the urine, the catheter is retained until the rectal bag is introduced and distended, as otherwise it may be difficult to insert a catheter after the rectal bag is full.

In distending the rectal bag, which is introduced by someone not otherwise helping in the operation, he usually injects about 3 ounces of water in young children, and 8 to 10 ounces in adults, using less at times, but very seldom exceeding that amount, thus avoiding the dangers of over-distension; moreover, as pointed out by Dr. Garson, to inject a large amount into the rectum defeats the object for which it is introduced, namely, the making prominent the bladder. As regards distending the bladder, he is content when he can feel the rounded outline of the bladder between the pubes and the umbilicus; usually about 5 ounces in children, and 10 to 15 ounces in adults is required. Boracic solution is invariably used. After the bladder is distended the catheter is withdrawn and a piece of tape tied round the penis to prevent the fluid returning.

With regard to suturing the bladder, his first case, which was operated on in 1886, was up and well at the end of the week, the catheter never being employed after the operation.

Ten of the series were treated by immediate suture of the bladder; and out of this number in only one did the suture give way. In this case the bladder was so deep as to be almost out of reach of the finger, and the wound was closed imperfectly, but the drainage tube, placed

between the edges of the linea alba, effectually prevented extravasation. This case was the only one in which the catheter was employed after suturing the bladder.

The sutures employed were No. 00 chromicised catgut, which were passed through the outer coats of the bladder, avoiding the mucous membrane. The continuous suture was not employed. It simplifies the manipulations if a temporary suture be passed through the outer tissues of the bladder on each side of the intended incision before it is opened; the edges of the wound in the empty bladder can then be brought up close to the external wound. The patient is encouraged to pass his urine afterwards unaided by the catheter, and, as a rule, there is no difficulty.

As a rule, it is a wise precaution to introduce a small tube superficially. Immediate suture of the bladder is especially applicable, and is very easy in young adults and children, and in thin persons generally. Where there is an accumulation of fat in the abdominal walls it is feasible but more difficult to accomplish, since the bladder is a long way from the surface.

The bladder should not be sutured in cases of cystitis or where the edges of the vesical wound are bruised, as in the extraction of a very large stone or in the manipulations necessary for the removal of an enlarged prostate. After draining the bladder, it hastens recovery and promotes the healing of the wound to allow the patient to get out of bed as early as is consistent with his general condition—often at the end of the first or in the second week—and then the edges of the abdominal wound can be drawn together with strapping.

The following is a synopsis of the cases in which prostatectomy as well as suprapubic lithotomy was performed:

1. B. H., æt. 67 years. History of stone for four years. Urine normal. December 15, 1887, suprapubic lithotomy performed; 12 ounces of water in rectum; 10 ounces of boracic solution in bladder. Lithic acid stone removed weighing 322 grains, and measuring 2 inches in length. Middle lobe of prostate removed; drainage tube inserted December 21. Tube removed December 24; urine passed by urethra.

January 31, made out-patient. Patient at present time in good health and working at his old occupation.

2. J. B., æt. 63 years: admitted June 6. Symptoms of stone for eight years. Sixty-five ounces of alkaline urine removed. June 6. Suprapubic lithotomy performed; 10 ounces of water in the rectum; 12 ounces of boracic solution in the bladder. Fifty calculi removed, largest $1\frac{1}{4}$ inches long. Two masses of adenoid tissue removed from either side of urethral orifice. Drainage tube inserted June 9; tube removed August 3. Patient discharged cured, and is at present time quite well.

3. C. E., æt. 62 years. Symptoms for several years. September, 1888. Middle lobe of prostate and three facettèd calculi, about the size of large filberts, removed. Bladder drained. Patient now in perfect health, and performing his duties as a working man.

4. J. W., æt. 66 years. Four years' history; catheter life greater part of time. Negatively sounded for stone on several occasions by experienced surgeons. March 22, 1890. Suprapubic cystotomy performed; 6 ounces water in rectal bag, and 12 ounces boracic solution in bladder; three stones removed from pouch behind prostate, one the size of a pigeon's egg, two the size of sparrows' eggs; middle lobe of prostate also removed; bladder drained; tube removed on fourth day, Patient up in second week; wound healed within month, and urine passed naturally. Some cystitis still persisted in July, but otherwise the patient was well.—*British Medical Journal*, Oct. 11, 1890.

BONES, JOINTS, ORTHOPÆDIC.

I. Operation for Spina Bifida. By DR. BORELIUS. The writer communicates a case of spina bifida, operated on with success and as the number of cases, which have been cured by operation is, in Scandinavia, especially small, it deserves mention.

The patient was a child, æt. 10 months, well developed physically as well as mentally: there was no hydrocephalus, complete anæsthesia of both legs was present; the left leg was flabby and paralytic and at the same time the child suffered from incontinence of urine and fæces. The tumor was of the size of a goose-egg and situated in the lumbo-sacral

region; it was covered, except two or three centimetres up from the base, with abnormally thickened and hairy skin, its top on the contrary with a bluish red membranous and translucent integument. The tumor was hard, tense and elastic; no nerve-tissue could be seen through its covering.

The child was chloroformed and two cutaneous flaps were dissected off upon both sides, down to the base of the tumor, which could be done without opening the sac. This was then evacuated by slow aspiration and opened by a little incision upon the summit. No nerve-elements were to be seen. The defect in the spinal column was of the size of a cent-piece, the tumor being therefore a pure meningocele. The meningocele-sac was dissected down to the opening in the spinal column and the greatest portion extirpated; the remainder was carefully sutured with silk and the skin-flaps united by a continuous suture. Healing did not take place completely by first intention as for a short time there was some suppuration, but otherwise the course was uneventful. A definite result, however, could not be obtained as the child, later on, was attacked by measles and died.

The usual course of a spina bifida, left to itself, is that the tumor grows little by little, the tension increases and finally it bursts, either spontaneously or from traumatism. The child then, as a rule, dies immediately in general convulsions in consequence of the rupture. If the child survives secondary suppuration attacks the sac, with infectious meningitis or myelitis as a cause of death. Such children rarely survive the first year of their life for spontaneous healing after rupture is one of the rarest terminations. The writer observes that he has only found one such case in the literature and observed a second at Thiersch's clinic, in Leipsic.

[1. Dr. Veron reports in the *Archiv. General. de Med*, May, 1883, a case where spontaneous opening of the sac, followed by recovery, took place. The patient was a child, æt. 10 years, with a sacral tumor of the size of an apple. The tumor increased in size, the skin mortified, the meningocele opened and cerebro spinal fluid escaped. The child was kept twenty days in the ventral position, the tumor gradually de-

creased to the size of a nut and finally, after a few months, it, upon employment of pressure, disappeared entirely and the opening into the spinal column closed entirely.

2. Mr. Clutton reported in the *London Lancet*, January 16, 1886, p. 108, a case of spontaneous recovery from a large cervical spina bifida.

3. R. A. D. Lithgow communicates in the *Brit. Med. Jour.*, February 11, 1882, a case of spontaneous cure of a lumbar spina bifida.—REPORTER.]—*Hospitals-Tidende*, R. vii, No. 47.

F. H. PRITCHARD (Boston).

II. On Changes in the Epiphyseal Cartilage After Ex-articulation. By Dr. MIKHAIL I. DRUJININ (Moscow, Russia). To study the subject the author has carried out a series of experiments on dogs in Prof. N. P. Ivanovsky's laboratory (St. Petersburg). The experiments consisted in amputation of the leg through the knee joint under strictest antiseptic precautions. In from 7 days to 6 months after the operation the animals were killed, and the joint examined both macroscopically and microscopically. The principal outcome of the research may be given as follows: 1. After exarticulation performed under all antiseptic precautions, the epiphyseal cartilage undergoes ossification, which proceeds in a normal or physiological way. 2. In such cases where the synovial membrane has been stripped off, the ossification begins within first few days after the operation. 3. The first stage of the process consists in vascularization, the new blood-vessels starting from the adjacent bone and gradually advancing toward the free surface of the cartilage to pierce the latter through and through. 4. The first phenomena of ossification made their appearance about the walls of cavities containing the new vascular plexus. 5. Very soon after exarticulation, cartilage corpuscles undergo proliferation and lose their physiological grouping in regular rows. In later stages, they form small islets scattered here and there at a long distance one from another. 6. From the beginning to the end, the interstitial substance of the cartilage retains its hyaline character and, generally, does not show any alterations whatever (neither splitting into fibres nor trans-

formation into a fibroid cartilage is ever observed). 7. For a long time the free surface of the cartilage remains smooth and even, while later on it becomes firmly adherent to a newly formed connective tissue. 8. The latter subsequently transforms into a dense periosteal connection tissue. It is a product of a progressive development of granulative tissue which appears shortly after the operation to form a lining for the articular cartilage. 9. The adjacent old epiphyseal bone with time becomes softer and more porous. 10. The newly formed bone is dense and has a perfectly normal appearance. 11. Such portions of the epiphyseal cartilage as have retained their synovial lining do not show any macroscopical deviations from the normal. 12. When examined microscopically, such cartilage proves to present but quite trifling alterations. In fact, the changes, found therein 6 months after exarticulation, resembles those that are detected in a bare cartilage within few days after the operation.—*St. Petersburg Inaugural Dissertation*, 1889, No. 6, pp. 69, with 8 figs.

VALERIUS IDELSON (Berne).

III. The Treatment of Tubercular Joint Disease with Iodoform Injections. By Dr. KRAUSE (Halle). Author has treated severe forms of tubercular joint disease with a 10% solution of iodoform in glycerine, or a 10% watery suspension. Of 60 cases of disease of various joints 23 were cured permanently. Improvement resulted in the majority of cases. In isolated cases arthrectomy or amputation had to be resorted to later. The best results by far were attained in the knee and wrist joints. In aged persons severe tuberculosis of the wrist joint otherwise necessitating amputation made astonishing improvement with the treatment, even when lung phthisis was progressing. In the knee joint cure resulted in some cases with mobility of the knee joint, even in patients beyond 40 years of age. In the hip joint recovery resulted in most cases with ankylosis, though in one or two exceptional cases the mobility of the joint was retained. The cures of the hip joint include some of the most severe forms of coxitis with luxations. v. Volkmann was of the opinion that in the poorer classes in whom it is impracticable to carry out an extended

after-treatment, ankylosis with a certain degree of abduction was desirable. The treatment of the iodoform injections is easily carried out, for it is only necessary for the patient to remain in observation a few days after injection. After the first injection it is more difficult on account of the resistance to make subsequent ones.

There is, evidently, after the first injection cicatrization of the soft parts, with shrinking of the same, tending to cure and diminution in the size of the joint. The pain disappears very rapidly with this treatment, and the general condition of the patient improves. If there be intra- or peri-articular abscesses, the same are evacuated with a large trocar and their cavities irrigated with boracic acid until all clots are washed out; then the iodoform injection is made. Should no abscess exist, then injection is made direct into the joint with a trocar; after this gauze is placed over the perforation made by the trocar, and passive motion employed; this, with massage, distributes the iodoform uniformly throughout the joint. In the wrist joint the trocar is entered at the processus styloidei radii and ulnæ, with the elbow joint at the capitulum radii, with the shoulders external to the coracoides, or at the junction of the acromion with the spine of the scapula. An entrance into the hip joint is best made with a long trocar (7 to 9 cm.) at the great trochanter, the patient lying upon the back. Flexion of the joint is to be avoided. The thigh is best adducted and rotated inward. The trocar is passed in at the superior border of the great trochanter about its mid-point, the instrument is forced inward perpendicularly to the axis of the shaft of the femur until bone is felt; this is the neck of the femur; the limb is now adducted and the trocar passed farther inward until bone is felt a second time; this is the space between the head of the femur and the acetabulum; the needle of the trocar is now withdrawn and the injection made. The knee joint is entered in the usual way. The ankle joint is entered close underneath the malleolar process of tibia or fibula.—*Beilage zur Centr. f. Chir.*, 1890, No. 25.

IV. Fractures of the Leg Produced During Birth. By Dr. BINGNER (Marburg). Author directed attention to a peculiar form

of diaphyseal fracture of the leg produced during birth, and which has hitherto been but little described. These fractures are not only typical in the symptoms they produce, but their peculiarities are explained by the manner in which they originate. They have led to the severest forms of pseudarthrosis, which have resisted all modes of treatment. In the clinic at Halle there have occurred 5 diaphyseal fractures of the leg produced intra-partum. They were mostly produced by forced extraction in delivery. Traction on the feet fractured the tibia and fibula in the inferior half of the diaphysis. Traction being exerted in an exactly opposite direction (antagonistic) to that exerted by the contracting muscle of the calf, an indirect fracture results, a dislocatio ad axia, the angle closed anteriorly and open posteriorly. The defective treatment is principally responsible for the subsequent pseudarthroses, and secondly the oblique character and the rebellious angular deformity of the fracture. The latter is perpetuated partly because, at the point of fracture, a piece of bone was sprung out, of wedge-like shape, whose base corresponding to the concavity lay posteriorly, and in part because the quadriceps femoris, acting on the upper fragment, drew this upward, while the lower fragment was drawn posteriorly by the muscle of the calf. The soft parts interposing and the fragments riding past each other also contributed toward producing the pseudarthrosis. The union was compromised in all cases and the fragments were united by fibrous bands or individually cicatrized. At the same time great atrophy of the fractured ends of the fragments resulted. The conical or finely-pointed extremities scarcely touched each other. The atrophy was so great that considerable extent of the continuity of the bone was in time lacking. The bones became so thin and soft through rarefying osteitis that not infrequently they could be cut with knife and scissors. Atrophy of the soft parts through inactivity and considerably retarded development of the extremity completed the characteristic picture of the disease. Naturally, the limb so affected by pseudarthrosis was compromised in its function to an extent as to be entirely useless. Author recommended the following treatment:

1. The hitherto simple transverse osteotomy, or the wedge osteot-

omy, is replaced by an oblique longitudinal osteotomy, an oblique resection of the ends of the fragments. By this means the fragments may be united by surfaces as broad as possible with the least shortening.

2. After suture of the bony fragments to obtain union by granulation rather than primary intention. In this way to call forth marked reaction of the periosteum.

3. To dispense for the same reason with the plaster-of-Paris bandage in these cases. This is replaced by splint which remains day and night on the patient, and which favors the early active exercise of the limb. The most important thing, however, is to recognize these fractures early, and to treat them correctly. They should be treated with splint as soon post-partum as possible. Pseudarthrosis is prevented by exact apposition of fragments, and in order to carry out the above, the occurrence of these fractures should be always kept in mind.—*Beilage zur Centr. f. Chir.*, No. 25, 1890.

HENRY KOPLIK (New York).

V. Guermonprez' Method of Reduction of Backward Dislocation of the Femur. By DR. CATOIR (Paris). The method is described as follows: The pelvis is fixed by the left hand of the operator, placed upon the iliac spine, the right hand then grasps the leg, the knee being in a position of extreme flexion, and forcibly flexes the thigh, slightly adducted, until its anterior surface rests upon the abdomen. To and fro movements in the direction of inward and outward rotation are now executed, until the head of the femur rests against the edge of the acetabulum, when direct pressure either by means of the hand of an assistant, or, according to Catoir, the knee of the operator, completes the reduction. During this last portion of the manipulation the extreme flexion of the thigh upon the abdomen should be somewhat relaxed.

The method finds its most practical application in old cases and particularly in those in which the operator is without proper assistance. Guermonprez employed it in an eight weeks' old iliac luxation, under an anæsthetic, having the day previous to the reduction, and without

an anæsthetic, rendered the femur head mobile by means of movements of flexion.—*These de Paris*, 1889.

VI. Ischiatic Arthrotomy and Resection of the Hip-Joint. By DR. A. BIDDER (Germany). In view of the occasional occurrence of instances in which the head and neck of the femur are free from disease, while the acetabulum is the seat of tuberculous and other diseased processes, Bidder proposes, in order to avoid the necessity of sacrificing the former, while the acetabular affection is rendered easily accessible, the following method of procedure:

The patient is placed in a semi-prone position, the hip-joint of the diseased side at an obtuse angle, and the knee-joint of the same limb flexed at a sharp, or at the least, a right angle. Somewhat below the crista-ili, and from 1 to 2 cms. removed from the posterior superior spine the knife is entered and carried in a straight line to the posterior edge of the trochanter major, and somewhat below its base. After incising the gluteus maximus a fascia is found through which may be seen the boundary between the gluteus medius and pyriformis. The tendon of the latter is divided at the lower portion of the wound. By dissection and retraction combined the neck of the femur and edges of the acetabulum are reached by following the edge of the gluteus minimus. In this manner the entire region between the lower edges of the great sciatic notch and the trochanter is cleared. Further above the gluteus medius and pyriformis are detached from each other, the superior gluteal artery and accompanying vein are to be isolated and ligatured, the gluteal nerve, however, being carefully separated and retracted in an upward direction.

The arthrotomy is commenced by an osteo-plastic resection of the trochanter, the latter being separated by a chisel, but allowed to remain attached to the soft parts, the latter being loosened from the digital fossa in such a manner as to permit of the detached bony portion being pushed well forward. If the femur is found to be healthy, but the acetabulum diseased or perforated, the diseased mass is removed as far as possible. An incision in the periosteum is now made along the half moon shaped edge at the site of the great sciatic notch,

loosens the same from the surface of the pelvis, until the acetabulum is reached. Should more room be necessary, the bony edge of the latter is chiselled away. The operation is completed by replacing the head of the femur, and by fixing the detached trochanter, still attached to the soft parts, to the shaft of the femur, and by establishing proper drainage, the tube passing to the acetabulum itself being led out through the sciatic notch.

In case of necessity existing for the removal of the head and neck of the femur, the trochanter should not be spared, inasmuch as it is better to permit the muscular attachments to find their own proper limit of attachment in case of considerable shortening of the column of the thigh.—*Archiv. f. klin. Chir.*, bd. xxxix, p. 742.

GEORGE R. FOWLER (Brooklyn).

VII. On Conservative and Operative Treatment of Tuberculosis of Bones and Joints. By DR. BRONISLAW S.

	Spine.....	Chest.....	Shoulder-joint...	Humerus.....	Elbow-joint.....	Forearm.....	Hand.....	Pelvis.....	Hip-joint.....	Femur.....	Knee-joint.....	Leg.....	Foot.....	Multiple Lesions.	Total.....
Total number of cases....	34	9	5	4	22	1	11	8	42	7	63	5	48	13	272
Male.....	21	6	2	4	14	1	7	5	27	5	46	3	32	9	182
Female ..	13	3	3	..	8	..	4	3	15	2	17	2	16	4	90
Under 10 years of age....	16	2	1	..	3	..	1	..	17	1	14	..	3	6	64
From 11 to 20 yrs. of age	7	3	2	2	7	1	2	2	9	3	17	1	14	6	76
From 21 to 30 " "	7	3	1	2	8	..	5	5	16	1	26	4	17	..	95
From 31 to 40 " "	3	1	..	..	3	..	1	1	..	2	5	..	8	1	24
From 41 to 50 " "	1	..	..	..	1	..	2	..	..	..	1	..	3	..	9
From 51 to 60 " "	..	..	1	..	..	..	..	..	..	..	..	..	1	..	2
From 61 to 70 " "	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2
	Body=43 (15.7 per cent.)			Upper limb=43 (15.7 per cent.)				Lower limb=173 (68.9 per cent.)							

KOZŁOWSKI (Kiev, Russia). The author contributes a valuable monograph on this highly important subject, based on 272 cases from Pro-

fessors I. I. Nasiloff's and Bogdanovsky's clinics, in St. Petersburg. The preceding table shows the distribution of the material in regard to the part affected and the patient's sex and age:

Of the 272 cases, 105 (34.9%) were cured; 94 (34.5%) improved; 51 (18.7%) obtained no relief, and 22 (8%) died; therefore a "favorable" issue was observed in 199 (73.5%) cases, an "unfavorable" in 73 (26.8%). Cases of disease of the vertebral column, humerus, forearm, pelvis, femur and leg were treated after conservative methods alone; those of articular affections and of bones of the hand and foot, after both conservative and operative ones. Of 216 conservative cases, 70 (32.1%) were cured; 87 (40.3%) "improved"; 43 (20.1%) obtained no benefit; and 16 (7.3%) died; on the whole, therefore, a "favorable" issue was observed in 158 (72.4%) cases, an "unfavorable" in 59 (27%). Of 56 operative cases, 36 (64.8%) were cured; 6 (11.1%) "improved"; 8 (12.9%) obtained no relief; and 6 (11.1%) died; that is, a "favorable" issue was noticed in 42 (75.9%) cases; an "unfavorable" in 13 (24%). The following table gives the result (in per cent figures) obtained in the group treated after conservative methods alone:

	<i>Favorable Issue.</i>	<i>Unfavorable Issue.</i>
Spine	73.5	26.5
Humerus.....	75	25
Forearm.....	100	.
Pelvis.....	75	25
Femur.....	85.7	14.3
Leg.....	80	20
Multiple Lesions.....	46.6	53.4

The comparative results obtained in the other group where both operative and conservative methods were employed may be seen from his table:

	FAVORABLE ISSUE.		UNFAVORABLE ISSUE.	
	<i>Conservative Cases.</i>	<i>Operative Cases.</i>	<i>Conservative Cases.</i>	<i>Operative Cases.</i>
Chest.....	71.5	100	28.	....
Shoulder joint	75	100	25	....
Elbow.....	80	.	20	14.3
Hand.....	50	66.6	50	33.4
Hip-joint....	71.4	57	28.6	43
Knee-joint...	83.1	60	16.9	40
Foot.....	58.3	.	41.7	16.7

The latter figures show, therefore, that in tubercular disease of the hip and knee joints a conservative treatment proves to be more successful than an operative one, while in affections of the elbow joint, hand, and more especially, foot, the reverse is the case. Another more elaborate table (which we omit on account of space) points out that 1. a conservative treatment of affections of the spine, chest, shoulder-joint, humerus, hip- and knee-joints in children is followed by much better results than in adults; 2, but in the case of the elbow-joint and hand, adults obtain more benefit than children; 3, an operative treatment of affections of the elbow, knee and hip-joints in adults proves more beneficial than in children; 4. an operative treatment of the disease of the foot gives equal results in all ages.

The general conclusions drawn by the author from his own clinical researches and the study of international literature (202 works of American, British, Dutch, French, German, Greek, Italian, Polish, Russian and Swedish authors) may be condensed as follows:

1. In children, conservative methods should be preferred to operative ones even in the presence of suppuration and disorganization of the joint. Such treatment gives by far the superior results in regard both to the patient's life and usefulness of the limb.

2. An operative treatment in children may be indicated only in such cases of articular tuberculosis of the upper limb where very considerable suppuration and disorganization of the joint are present. Be

the operation decided upon, all possible attempts at preserving epiphyseal cartilages should be made in order to prevent a consecutive shortening of the limb.

3. In adults, a conservative treatment should be preferred in all cases where no suppuration and disorganization of the joint have yet set in.

4. An operative treatment in adults is indicated only in the presence of suppuration and disorganization of the joint, though even here a conservative method should be preferred as soon as the lesion is limited to some circumscribed foci.

5. As far as adults are concerned, in the case of upper limbs resection is followed by more satisfactory functional results than a conservative treatment, but in the case of the lower limbs conservative methods prove more successful than operative ones.

6. In cases of multiple tubercular lesions of bones and joints, a local treatment alone utterly fails to cure the patient. It can prove beneficial only when combined with an appropriate general treatment.

7. A conservative treatment of osseous and articular tuberculosis deserves most careful attention of the profession. All conservative cases should be published by surgeons as systematically, and described as carefully, as those treated after operative methods.

It will not be superfluous to add that Dr. Kozlowski applies his term "operative methods" solely to amputations, disarticulations, resections, and arthrectomy, while his "conservative methods" include, besides constitutional treatment (climatic, hydrotherapeutic, etc.), a local one by cold, heat (*e. g.*, Professor Nasiloff's scalding-hot compresses,) rubefacients, vesicants, derivants, immobilization, extension, massage, electricity, tapping the joint, intra-articular injections (of iodoform, iodine, tannin, phosphate of calcium, Peruvian balsam, etc.,) arthrotomy with antiseptic irrigations and drainage, and ignipuncture.

—*St. Petersburg Inaugural Dissertation*, 1890, No. 57, p. 327.

VALERIUS IDELSON (Berne).

VIII. On Retardation in the Longitudinal Growth of the Radius After Traumatic Separation of the Epiphysis.

By Dr. W. STEHR (Tübingen). In 1881, Bruns, in his work on fractures, presented a collection of 13 cases of consecutive retardation in longitudinal growth after separation of an epiphysis. Since then 8 further cases have been published by observers. Of these 21 cases 10 were of the lower epiphysis of the radius, 6 of the upper humeral, 2 each of the lower ulnar and femoral, and 1 of the lower tibial.

That this retardation by far most frequently follows separation of the lower radial epiphysis is further shown by the 3 cases of this kind since observed in Bruns' clinic, and here considered in detail by Stehr.

In all the 13 cases of this special class, so far as known, the primary accident occurred during the second decennium of life. The shortening appears gradually and produces a typical position of the hand. This becomes more and more flexed radially, and the capitulum ulnæ correspondingly more evident as a roundish prominence. Hence in all there is the same functional disturbance—impeded ulnar flexion, as the ulna, somewhat like an inner splint, limits lateral motion.

The reasons why this retardation is so infrequent in comparison with the frequency of epiphyseal separation, are several. It largely depends on the exact seat of the line of separation. Commonly, even in splintering fractures at this point, the bone-producing cartilage is not sufficiently destroyed to seriously interfere with growth. But in very rare cases the line of division falls in the substance of the intermediary cartilage itself, and then the injury to the cartilage, together with the obstructing and binding new connective tissue, effectually impede the further production of bone. The like may follow in the more common forms of fracture where complications injure or offset the activity of the cartilage.—*Bruns' Beiträge f. klin. Chir.*, Bd. v, heft. iii.

IX. On Traumatic Dislocations of the Hip-Joint. By Dr. F. KNEER. This collection includes all the cases, exclusive of congenital and spontaneous, observed at the Tübingen clinic in 38 years. This accident is infrequent. For though a collection of 1,994 cases of all joints from seven sources gives an average of nearly 10% to the hip, still if fresh dispensary cases only, or even those plus fresh hospital cases, are included, the per cent falls to 2.5½.

After discussing the nearly equal occurrence on the two sides (13 on the right, 17 on the left, 1 double-sided), the much greater frequency in men (26 males to 5 females), and from the 40th to 60th year, he takes up the kind of dislocation. That backward is far more frequent than that forward (26 to 5). Statistics of 210 cases from six sources showed 160 posteriorly to 49 anteriorly. As to which subform of posterior dislocation is the more frequent, the iliac or the sciatic, there is a wide diversity of opinion. Of his cases 22 were iliac and only 5 sciatic, and he selects statistics in the same sense from three other writers, and yet the proportion from 30 autopsies (by Malgaigne, Lossen and himself) is opposed to this view (12 iliac to 18 sciatic).

Of his 5 cases forward, 3 were supra-pubic and 2 infra-pubic (obturator). Statistics of 39 such cases from four sources give 19 supra-pubic and 20 infra-pubic.

Finally, he gives 1 positive case of the very rare supra-cotyloid dislocation (he mentions Hamilton's single case, not quite a certain one, amongst 115 cases of hip dislocation). In Kneer's case "the right leg was rotated outward and abducted. On closer examination the head of the femur was found just under the spina anterior superior, and the trochanter somewhat obliquely farther back." He gives one case showing that a supra-cotyloid dislocation may arise from an iliac.

Amongst causes, he mentioned 6 cases that occurred from high falls, 5 from being run over, 5 from heavy blows (*e. g.*, falling timber), 7 from being forcibly thrown to the ground, 7 from being deluged by falling material, and 1 very rare case from slipping up, but before the actual fall (2 other such cases are known, 1 from Mercier, 1 from Malgaigne).

As to the mechanism of the origin of these dislocations, there is great difficulty in getting details from the patient. The posterior dislocation may arise from forced flexion, adduction and rotation inward, or by force striking the thigh when adducted and turned inward, *i. e.*, if the force acts to increase this position. The same explanation holds in the case from slipping. The man was just starting with a load on his back. The left foot slipped backward. This caused a sudden flexion with adduction and rotation in the right hip, and the crack of the dislocation was experienced before he struck the ground.

Dislocation forward arises from immediate extension, abduction and rotation outward.

The prognosis largely depends on complications (2 early fatal cases). An illustration shows the posterior appearance in his case of double dislocation backward. "Both trochanters stand out laterally, so that the whole pelvis appears broader; the region of the buttocks is much flattened, the gluteal muscles not forming a prominence as usual." Recently Niehaus has collected 24 cases of double dislocation of the hip, including 4 that were iliac on both sides and 4 that were obturator ditto.

In all his cases that had not existed not longer than one week, reduction was accomplished without great difficulty. But amongst 17 old cases only 7 were successful.

As to return of function after reposition, he finds that in two or three weeks, with the help of crutches or sticks, they are able to walk quite well. Later reports from two cases show that these at least regained full use of leg.

Recurrence was not known in any of his cases. He gives 1 case and quotes others to show that old unreduced hip-dislocations, when forward, cause comparatively little inconvenience; exceptionally, also, even in cases backward, fair use of the extremity may be regained.

The method of reduction was the common one, increase of the pathological position followed by the opposite. Of 3 ten weeks old cases, 1 was reduced, whilst 4, from twelve to thirty weeks old, were all unsuccessful. Attempts at reduction in one old case produced a fracture of the femur below the tip of the trochanter, but as this allowed a correct position of the leg, it proved fortunate. In another old case an obturator dislocation was changed to a sciatic and had to be left so. In one fresh case an iliac was changed to a forward dislocation and then finally reduced.—*Bruns' Beitrage f. klin. Chirurg.*, 1889, Bd. iv., heft 3.

X. On the Operative Treatment of Irreducible Traumatic Dislocations of the Hip-Joint. By K. KIRN (Tübingen). This article includes a description of the exsection of the dislocated

head of the femur in two cases at Bruns' clinic, together with a general consideration of the operative methods employed in these not rare cases. Relatively often the dislocation is not diagnosticated, and hence not reduced in time. It becomes irreducible much sooner than that of the shoulder, and, in fact, is occasionally so from the start. Then connective tissue fills up the socket and fixes the head in its new position.

Where the dislocation is forward (supra-pubic or obturator), a good nearthrosis may form, and the person walk fairly again; where downward (infra-cotyloid), the head may get a support against the border of the socket; and where upward (supra-cotyloid), against the spina anterior superior. Hence it is the much more frequent posterior dislocation that oftener calls for operative relief. Of 19 old dislocations of the hip that to date are known to have been subjected to operation, 11 were posterior, 4 anterior and 4 not stated.

The various operations in question are: (1) Attempts at forcible reposition. (2) Subcutaneous section of the retaining soft parts. (3) Osteoclasis. (4) Osteotomy. (5) Arthrotomy, resp., bloody reposition. (6) Exsection of the joint.

The first two of these methods have nothing in their favor. Osteoclasis as an accident in attempts at reduction has repeatedly led to a useful leg; 6 such cases from as many observers are specified. But certain dangers are incurred, especially that of necrosis of the femoral head when the fracture is through the neck. Osteotomy offers all the advantages of osteoclasis, besides a choice of the point of fracture, and yet without danger. He finds only one such case, that of Macewen.

Fiovani's method of reposition by laying the dislocated head bare and severing the retaining structures and adhesions has been done twice, once in a posterior dislocation by Vecelli with good result, and once also in an iliac by Polaillon, with death from sepsis. But in many other cases so great changes about the socket and head have been found, that the attempted operation was unsuccessful. Moreover, here also there is danger of necrosis of the femoral head.

Of his two cases of exsection, one occurred in pre-antiseptic times

and was fatal from pyæmia following erysipelas of the wound. The other case was a four-months old iliac dislocation. As even bloody reduction was impossible the head was sawed off at the base of the neck. Drainage, suture, wood-wool dressing, extension. In a month the patient was able to get about with a Taylor's apparatus, and in another month could walk very well (on a raised sole and heel). Two years later, the shortening was 3 cm, all motions free and painless, the patient walking about all day.

An abstract is given of 12 previously published cases of like exsection from various sources. Of this total of 14 cases, 4 ended fatally, though not from the operation, but from complications. The functional result in the 10 successful cases was very good, about half of these patients walking without a stick.

In summing up, he points out that osteotomy above or below the trochanter may in some cases suffice, by correcting the position of the leg, that bloody reduction is rarely possible, but that resection gives very satisfactory results.—*Bruns' Beitrage z. klin. Chir.*, 1889, Bd. iv., heft. iii.

WM BROWNING (Brooklyn).

XI. The Operative Treatment of Congenital Dislocations of the Hip. By DR. HOFFA (Wurzburg). The methods of treating congenital hip dislocations, either by orthopædic or operative means, have hitherto been devoid of good results. The resection of the head of the femur is to be rejected because the operation leaves a shortening of the extremity, and limping is not remedied. The first principle of all operations should be the preservation of the bony skeleton at the expense of the soft parts. The latter prevents the head of the femur from being drawn downward in the region of the acetabulum as a result of atrophy. Again, we must consider any defects of the acetabulum. In order to remove all resistance of the soft parts, a Langenbeck's resection incision is made, the capsule opened and a probe-pointed knife inserted, and all the muscular insertions around the great trochanter are divided subperiosteally, at times including a superficial layer of bone or cartilage. The head of the femur now becomes

perfectly mobile and can be drawn down in the vicinity of the acetabulum. If the acetabulum exists then the head is replaced by extension and direct pressure on the trochanter.

If the acetabulum is absent or only indicated, a curved incision is made along its lower border reaching to the bone, and the periosteum loosened and an acetabulum is chiselled out of the bone to the required extent. This is accompanied by very little difficulty, especially if the head of the bone is lifted out of the wound, and the thigh strongly adducted. The head of the bone is now placed in the newly formed acetabulum, and the periosteal flap and soft parts replaced over the head of the bone, and trochanter sutured securely to soft parts. Hoffa operated in his first case after this manner; in his other two cases the acetabulum was present, so that it was only necessary to remove the soft parts in order to give the acetabulum the necessary depth. If the soft parts on the anterior aspect of the acetabulum were too tense they were divided subcutaneously (*fascia lata*) at the anterior superior spine of the ileum. Hoffa has performed the operation five times and recommends it in children in whom the acetabulum is at least indicated. The function of the operated limb is not complete immediately after operation, inasmuch as the new acetabulum and the head of the femur are not in apposition. The apposition results later when the children begin to use the operated extremity, when the transformation of the bone takes place according to natural laws. This was illustrated by two cases, in one of which ten months after operation the function of the limb on the operated side was almost normal. The extremity is freely movable in all directions, and at the same time the head is fixed in the acetabulum. The great trochanter corresponds to the Roser-Nelaton line, and the extremity is $3\frac{1}{2}$ cm. longer than the one on the healthy side. In the second case an equally good result was obtained, and the child walks with normal gait.—*Beilage z. Centrbl. f. Chir.*, No. 25, 1890.

HENRY KOPLIK (New York).

XII. Irreducible Luxation of the Hip-Joint Treated by Operation. By OSCAR BLOCH (Copenhagen). The writer commu-

nicates the following case of irreducible hip-joint luxation treated by operation:

The patient, a man æt. 17 years, entered Frederick's Hospital. One hundred and three days before he received a blow upon the inside of his left knee, after which the limb remained abducted; he fell, heard a crack, and on attempting to rise he found that he could not rest his weight upon his foot of the injured side. A luxation of the left hip was diagnosed in a local hospital and according to the local physician, was reduced. After awakening from the influence of the chloroform the patient heard a loud snap. He remained seventeen days in the hospital, and was discharged, with free movement of the limb; but four or five weeks later his gait was limping and bent, and a prominence of the size and form of the head of the femur was found in the gluteal region. When he entered the hospital he could only walk a short distance, at the most, and was unable to work. There was present a pronounced lordosis of the lumbar vertebræ, which was straightened upon the femur, being flexed to an angle of about 45° . No difference can be seen in the position of the two extremities. Actively he can abduct and rotate the left extremity outwards, but this takes place from movement of the pelvis. If the pelvis be fixed, there is an elastic resistance to these movements. The caput femoris lies in the external iliac fossa. On strong passive flexion, a rasping sound is audible. The point of the trochanter lies about 5 cm. above Nélaton's line, and the left lower limb seems to be 3 cm. shorter than the right. Reposition was attempted three times under chloroform narcosis, but was in vain, and one hundred and twenty days after the accident an operation was performed. First, an exploratory incision was made between the rectus and sartorius muscles. The anterior surface of the capsule was opened by an incision 3 cm. long, and several tense bands were severed, and two attempts at reposition were made, but again in vain. The acetabulum was distinctly felt to be filled with firm masses. Langenbeck's incision for resection was then made to remove the head of the femur, when it was seen to be surrounded by a thin capsule of connective tissue, which was easily cut through. The head of the femur, in place of its normal, smooth and

bluish colored covering of cartilage, was found to have a yellowish, prickly surface, with small hollows. An attempt at flexion being made the head of the femur approached the edge of the acetabulum and rotated there, when it was seen that the uppermost part of the femur followed the movements, while the caput femoris itself stood still upon the margin of the acetabulum, and upon rotation, a slightly gaping fissure was discovered between the head of the bone and the shaft; the widest portion of the fissure was directed outwards. The shaft and head were only connected by a bridge of bone, about 2 cm. in breadth. The head was easily separated completely; the acetabulum being entirely filled with fibrous masses; a wedge-shaped piece was removed. The wound healed uneventfully. The extremity was, on measurement, found to be about 3 cm. shorter than the other. The pelvis moved with the limb. When discharged the patient could walk uninterruptedly for half an hour. Nine months later he presented himself again; he could then follow his occupation as carpenter, and walk two miles.

The writer has collected, besides his own case, thirteen cases of traumatic luxation of the hip-joint treated by operation, which he communicates.

In recent irreducible luxations he would not operate at once, but wait until the reaction after attempts at reposition had passed away; the operation is especially contraindicated as long as excoriations or bed-sores, after extension-bandages, etc., are present, as these may be the source of infection. Often one will desire to repeat attempt at reposition. But if one should, in an entirely recent case, decide to operate, then arthrotomy with tenotomy should be done. If the case is one to one and a half or two months old, he would operate in those cases where one may with certainty diagnosticate impediments to reposition, and know that they can be surely removed. Operation, in the meantime, can only be performed when there is simultaneous fracture of the anatomical neck of the femur. The writer advises rather primary extirpation of the caput femoris, than to try to have the fracture heal and then replace. In the greatest number of these cases where the hindrances to reposition can not be diagnosticated,

he would let the cases run along two or three months under proper treatment, until one can decide whether one should operate or not; which, essentially, will depend upon the capability of the patients of working. If one decides to operate in those cases where the position of the limb is troublesome, osteotomy or, perhaps, osteoclasia will be the operation most likely chosen. In the remainder of the cases one may begin with arthrotomy; but as resection, as a rule, is required, the incision may be so done that the transition in the operative procedure may be easily made.—*Hospitals Tidende*, R. 3, Bd. 7, pp. 65, 97, 141.

XIII. Treatment of Coxitis; Forty-two Resections. By PROF. GRITTI (Milan, Italy). In the course of three and a half years Prof. Gritti has treated one hundred and twelve cases of coxitis; forty-two of which had undergone resection. Of the patients who were operated upon, seventeen died, which gives a mortality of 38%. Gritti describes this not very good result to the fact that many grave cases had been admitted to the hospital in too advanced a stage of the disease. Among the causes of death he mentions once shock and once pyæmia. In the other cases pulmonary and intestinal tuberculosis, exhausting suppuration and amyloid degeneration are enumerated as causes of death. Gritti advocates the early performance of resection. If severe nocturnal pain sets in, and a swelling in the gluteal region allows one to conclude that fungous granulations of the synovial membrane be present, then he advises not to wait until an abscess is formed, but to operate immediately. He removed in 19 cases the head only; in 23 cases he also removed the trochanter. Accordingly, in the cases which recovered, there was frequently a considerable shortening. Gritti could not make a comparison of the results of his procedure with those of the conservative treatment. He had carried out the conservative treatment in 70 cases with only 3 deaths; but all of these were only slight inflammations of the joint.—*Archivo di Ortopedia*, 1889.

F. H. PRITCHARD (Boston).

XIV. Wolf's Method of Redressement in Genu Valgum and Varum. By DR. J. WOLF (Germany.) In an elaborate paper upon this subject, including the pathology of the deformity, Wolf considers the condition as depending solely upon the functional adaptation of the bony and soft parts of the extremity to the persistent and frequent position of the leg in the line which constitutes the deformity. The treatment heretofore in vogue consisted either of a supra-condyloid osteotomy or some of its modifications (Macewan, Reeves, Ogston) or the slow and tedious method incident to orthopædic treatment. Wolf has introduced a method of redressement, which occupies a midway position in relation to the methods above mentioned, and which, although it does not give such rapidly brilliant results as the operative procedures alluded to, yet merits trial. It consists in applying, under an anæsthetic, a permanent fixation dressing (Alabaster, Plaster-of-Paris) to the limb in its deformed position, reaching from the ankle to the trochanter, and before this completely hardens the limb is grasped firmly and redressement performed, one assistant steadying the pelvis, while another grasps the internal condyle and forces it outward, the operator at the same time forcing the leg in an inward direction. (In genu-varum this is reversed.) When the normal position of the limb is approached as near as possible, the parts are held immovable until the plaster hardens. After two or three days, when the pains incident to the new position of the limb have disappeared, cuneiform pieces are removed from one or the other lateral aspect of the dressing (Mikulicz) according to the character of the deformity, further redressement performed; (the bandage being presumably thereafter reinforced) this process is repeated until the normal position of the limb is regained, this occupying from twelve to thirteen weeks, although, according to the author, the patient may resume his daily occupation as early as the third week.

Thus far the method has been only employed in children and young adults, but Wolf is convinced that it will be found useful in older individuals as well.—*Deut. Med. Woch.*, 1889, No. 50.

G. R. FOWLER (Brooklyn).

XV. A New Operation for Ankylosis of the Knee. By DR. HELFERICH (Greifswald.) It has hitherto been the custom in bony ankylosis of the knee to remove a wedge of bone corresponding in extent to the degree of angular ankylosis and to bring the sawed surfaces of bone in apposition as in all knee joint resections. In this manner a comparatively large part of the length of the limb is sacrificed, and we run the risk of wounding the intermediate cartilage, thus compromising in the young the growth of bone. Helferich proposes from an experience in his favorable cases, the resection of only a small bow-shaped wedge of bone with extensive open division of fasciæ and tendons in the hollow of the knee. By forced extension conditions are produced favorable to a non-bony fixed flexed knee-joint. We need remove but little bone. In some cases it is only necessary to divide the soft parts and only divide the bone with broad saw in an arched manner. The intermediary cartilage remains uninjured. Accurate position can be attained by superficial blows with chisel. The curved surfaces if they only fit approximately to each are favorable to bony union on account of their broad surfaces. Simple extension secures a good union. The fixity and steadiness are greater than in the hitherto practiced method. Helferich demonstrated cases treated in this manner with chain saw and showed photos of cases. He has practiced the division of tendons and fasciæ in the hollow of the knee by making a straight incision through the skin in the outer and inner side of the hollow of the knee and from this incision the division of the parts is carried out. König, in the discussion following above, mentioned a similar operation published by him some time ago. After a curved incision beneath the patella the bone is divided by a broad chisel; there is no danger of wounding the vessels. A smaller chisel completes the operation and the limb is put up in plaster. Hahn, of Berlin, operated in a similar manner with a chisel 1 cm. wide.—*Beilage z. Centblt. f. Chir.*, No. 25, 1890.

XVI. Results in Arthrectomies of the Knee. By DR. ANGERER (München). Angerer has performed 82 arthrectomies during the last four years in the polyclinic and children's clinic. Sixty-three

of these were those of children below 14 years of age. Angerer has concluded from the study of these cases that there is little danger in overlooking foci of disease which may cause subsequent trouble. Of the seventy cases operated upon up to August, 1889, primary union was obtained in 48. Ten of these cases were marked by a return of disease in loco. Eight of these returns were permanently cured by treatment of the fistulæ. The author prefers this arthrectomy to the typical resection, especially in the synovial form of tuberculosis not uncommon in the knee-joint. A bony focus of disease was found in 52 of the 82 arthrectomies. Thirty were cases of synovial tuberculosis. In 63 arthrectomies of children a focus of disease was found in 36 cases. The author recommends early movements and massage in arthrectomies in order to avoid subsequent contractures. He also advocates early arthrectomy, because the weakest children stand the operation well and the early operation protects the epiphyseal cartilage from the attacks of disease which might compromise subsequent growth.—*Beilage z. Centblt. f. Chir.*, No. 25, 1890.

HENRY KOPLIK (New York).

XVII. Arthrectomia Synovialis of the Ankle Joint. with Temporary Extirpation of the Astragalus. By DR. H. STROM (Norway). Ström carried out the proposition made in the *Centralblatt f. Chirurgie* (1889). He extirpated the left ankle-joint in a boy, æt. 15 years, who was suffering from tuberculosis of this joint. He opened the joint by means of Kocher's method. As he could not gain sufficient access to the tuberculous masses which he intended to extirpate, he removed the astragalus and after having extirpated carefully all the tuberculous tissue replaced it again. All the cartilaginous surfaces of the tibia, fibula, calcaneus, scaphoid and astragalus were removed. The cutaneous wound was brought together by sutures and two drainage tubes inserted. The patient was presented to the Christina Medical Society, on December 20, 1889, at which time he was practically cured; the foot was somewhat swollen, but the patient could stand on it well. The structure of the foot was solid and mobility nearly normal.—*Norsk. Ungaz. for Lægevidensk.*, March, 1890.

ALBERT PICK (Boston).

XVII. A New Operation for Club-Foot. By Dr. MENSEL (Gotha). The author enucleated the bony nucleus in the neck of the astragalus of a patient suffering from congenital bilateral club-foot. The patient had had the regular orthopædic treatment for club-foot, but after forcible redressement of the feet, plaster and splint were applied, and after 8 days the patient contracted gangrene from pressure on both feet. During the process of granulation the feet not only became as bad (varus) as originally, but even worse. The cicatricial tissue was not favorable to the treatment in the regular way, and the author exposed the astragalus of the patient ($2\frac{1}{2}$ years old). At this age the astragalus is composed for the most part (body) of cartilage and the bone nucleus is situated in the neck of the bone. It was comparatively easy to expose the neck of the bone without opening either the scaphoid or ankle joint, and by cutting into the neck the bony center could be easily enucleated. The deformed bony nucleus may be very potent in the causation of the varus position, and after its removal the cartilage can easily be molded into a normal position. After removal of the above it was easy to bring the foot into good position without any great force, and cure was complete. The advantage gained is the retention of the body of the astragalus and the integrity of the ankle and scaphoid joints.

The operation is only indicated before the 3rd year, and author would only perform it when the orthopædic treatment is not possible.—*Beilage z. Centr. f. Chir.*, No. 25, 1890.

XVIII. The Treatment of Club-Foot by Forcible Reduction. By PROF. KONIG (Göttingen). Author has treated during the past 5 or 6 years all cases of club-foot, without exception, by forcible reduction. He has, on account of his bad experience, entirely abandoned the bloody operations, which have for their object the removal of a part of the bony skeleton (talus or a wedge of the tarsus). The results of club-foot operations in the Göttingen clinic have, in consequence, been very good. In only very exceptional cases have heavy instruments for reduction, which grasp the anterior part and posterior portion of the foot, respectively, been used. These instruments have

been abandoned in favor of the hand of the operator, with the aid of a point of support. The plantar aponeurosis and Achilles tendon are divided before operation (which is done in narcosis). We must not expect to accomplish everything in one sitting, for this three or four sittings are sometimes necessary. The most favorable are the club-feet from the 5th to the 20th year, and especially those of the age of puberty. The purpose is to press together the bone toward the side of the convexity of the curvature, and to tear the bands and ligaments on the concavity. The procedure consists of two acts: The first act is to overcome the adduction. The extremity of the patient is turned on its outer side, having fixed the knee and leg. There is on the table a piece of wood, covered with towel, similar to a Volkman's railway splint. The convexity of tarsus of the foot is placed on the summit of this block of wood, and grasping the anterior part of the foot with one hand, and the tarsus and heel with the other, the attempt is made to bend the foot forcibly inward, bringing the whole body weight of the operator into play. The position of the foot is changed from time to time so that the force is brought to bear on the metatarsus, and again on the dorsum, of the foot. If the foot crunches and yields the second part of the operation follows. The child is brought in the dorsal position, and the knee being fixed, the forefoot is forcibly brought into dorsal flexion and abduction. Both the above acts must be repeated several times (two or three) in one sitting. After the operation a bandage is applied which retains the foot in the position attained. In some cases one sitting is sufficient, and after fourteen days the foot is placed in splint and shoe of Roser, and active and passive movement made. If not, a second sitting is necessary, and the patient is not discharged until he stands and walks with a fully abducted and externally rotated foot.—*Beilage z. Centrbl. f. Chir.*, No. 25, 1890.

HENRY KOPLIK (New York).